

HYDRIC SOIL INTERPRETATIONS
HYDRIC SOILS LIST
Rolette County, North Dakota

In this section, hydric soils are defined and described and the hydric soils in the survey area are listed. The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for each of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 1995). These criteria are used to identify a phase of a soil series that normally is associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (USDA, 1999) and "Keys to Soil Taxonomy" (USDA, 1998) and in the "Soil Survey Manual" (USDA, 1993).

If soils are wet enough for a long enough period to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils in this survey area are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and others, 1996).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units in the Hydric Soil Interpretations table meet the definition of hydric soils and, in addition, have at least one of the hydric soil indicators. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 1996).

Map units that are made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

These map units, in general, do not meet the definition of hydric soils because they do not have one of the hydric soil indicators. A portion of these map units, however, may include hydric soils. Onsite investigation is recommended to determine whether hydric soils occur and the location of the included hydric soils.

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Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
17: ABERDEEN-NAHON SILT LOAMS	ABERDEEN	No	---	---	---	---	---
	NAHON	No	---	---	---	---	---
64: ARVESON LOAM	ARVESON	Yes	depression	2B3	YES	NO	NO
66: ARVESON LOAM, WET	ARVESON	Yes	depression	2B3,3	YES	NO	YES
76: ARVILLA SANDY LOAM, 0 TO 6 PERCENT SLOPES	ARVILLA	No	---	---	---	---	---
118: BARNES-BUSE LOAMS, 3 TO 6 PERCENT SLOPES	BARNES	No	---	---	---	---	---
	BUSE	No	---	---	---	---	---
120: BARNES-BUSE LOAMS, 6 TO 9 PERCENT SLOPES	BARNES	No	---	---	---	---	---
	BUSE	No	---	---	---	---	---
135: BARNES-CRESBARD LOAMS, 3 TO 6 PERCENT SLOPES	CRESBARD	No	---	---	---	---	---
	BARNES	No	---	---	---	---	---
137: BARNES-HAMERLY LOAMS, 0 TO 3 PERCENT SLOPES	BARNES	No	---	---	---	---	---
	HAMERLY	No	---	---	---	---	---
167: BEARDEN SILT LOAM	BEARDEN	No	---	---	---	---	---
169: BEARDEN SILT LOAM, SALINE, 0 TO 3 PERCENT SLOPES	BEARDEN, SALINE	No	---	---	---	---	---
268: BOTTINEAU LOAM, 3 TO 9 PERCENT SLOPES	BOTTINEAU	No	---	---	---	---	---
271: BOTTINEAU LOAM, 9 TO 25 PERCENT SLOPES	BOTTINEAU	No	---	---	---	---	---
314: BUSE-BARNES LOAMS, 9 TO 15 PERCENT SLOPES	BUSE	No	---	---	---	---	---
	BARNES	No	---	---	---	---	---
318: BUSE-BARNES LOAMS, 15 TO 25 PERCENT SLOPES	BUSE	No	---	---	---	---	---
	BARNES	No	---	---	---	---	---
389: CATHAY-LARSON LOAMS, 0 TO 6 PERCENT SLOPES	CATHAY	No	---	---	---	---	---
	LARSON	No	---	---	---	---	---
392: CAVOUR-CRESBARD LOAMS, 0 TO 6 PERCENT SLOPES	CAVOUR	No	---	---	---	---	---
	CRESBARD	No	---	---	---	---	---
430: CLAIRE-LOHNES COMPLEX, 6 TO 25 PERCENT SLOPES	CLAIRE	No	---	---	---	---	---
	LOHNES	No	---	---	---	---	---
450: COLVIN SILT LOAM	COLVIN	Yes	flat	2B3	YES	NO	NO
451: COLVIN SILT LOAM, CHANNELED	COLVIN	Yes	flood plain	2B3	YES	NO	NO

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				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
452: COLVIN SILT LOAM, SALINE	COLVIN, SALINE	Yes	flat	2B3	YES	NO	NO
453: COLVIN SILT LOAM, WET	COLVIN	Yes	depression	3,2B3	YES	NO	YES
470: CRESBARD-BARNES LOAMS, 0 TO 3 PERCENT SLOPES	CRESBARD	No	---	---	---	---	---
	BARNES	No	---	---	---	---	---
501: DICKY-ESMOND COMPLEX, 3 TO 9 PERCENT SLOPES	DICKY	No	---	---	---	---	---
	ESMOND	No	---	---	---	---	---
502: DICKY-ESMOND-MADDOCK COMPLEX, 9 TO 25 PERCENT SLOPES	ESMOND	No	---	---	---	---	---
	MADDOCK	No	---	---	---	---	---
	DICKY	No	---	---	---	---	---
510: DIVIDE LOAM	DIVIDE	No	---	---	---	---	---
532: ECKMAN SILT LOAM, 1 TO 6 PERCENT SLOPES	ECKMAN	No	---	---	---	---	---
548: EGELAND FINE SANDY LOAM, 0 TO 6 PERCENT SLOPES	EGELAND	No	---	---	---	---	---
569: EMBDEN FINE SANDY LOAM	EMBDEN	No	---	---	---	---	---
601: ERAMOSH PEAT	ERAMOSH	Yes	depression	3,2B3	YES	NO	YES
602: ERAMOSH PEAT, PONDED	ERAMOSH	Yes	depression	2B3,3	YES	NO	YES
605: ESMOND-HEIMDAL LOAMS, 9 TO 15 PERCENT SLOPES	ESMOND	No	---	---	---	---	---
	HEIMDAL	No	---	---	---	---	---
607: ESMOND-HEIMDAL LOAMS, 15 TO 25 PERCENT SLOPES	ESMOND	No	---	---	---	---	---
	HEIMDAL	No	---	---	---	---	---
768: GARDENA SILT LOAM	GARDENA	No	---	---	---	---	---
800: GLYNDON SILT LOAM	GLYNDON	No	---	---	---	---	---
846: GREAT BEND-OVERLY SILT LOAMS, 0 TO 3 PERCENT SLOPES	GREAT BEND	No	---	---	---	---	---
	OVERLY	No	---	---	---	---	---
863: HAMERLY LOAM, 0 TO 3 PERCENT SLOPES	HAMERLY	No	---	---	---	---	---
864: HAMERLY LOAM, SALINE, 0 TO 3 PERCENT SLOPES	HAMERLY,SALIN E	No	---	---	---	---	---
883: HAMERLY-TONKA-PARNELL COMPLEX, 0 TO 3 PERCENT SLOPES	HAMERLY	No	---	---	---	---	---
	TONKA	Yes	depression	2B3,3	YES	NO	YES
	PARNELL	Yes	depression	2B3,3	YES	NO	YES

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				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
893: HARRIET SILT LOAM	HARRIET	Yes	flat	2B3	YES	NO	NO
926: HECLA LOAMY FINE SAND, 0 TO 3 PERCENT SLOPES	HECLA	No	---	---	---	---	---
939: HECLA-HAMAR LOAMY FINE SANDS, 0 TO 3 PERCENT SLOPES	HECLA	No	---	---	---	---	---
	HAMAR	No	---	---	---	---	---
987: HEIMDAL-EMRICK LOAMS, 0 TO 3 PERCENT SLOPES	HEIMDAL	No	---	---	---	---	---
	EMRICK	No	---	---	---	---	---
992: HEIMDAL-EMRICK-ESMOND LOAMS, 3 TO 6 PERCENT SLOPES	HEIMDAL	No	---	---	---	---	---
	EMRICK	No	---	---	---	---	---
	ESMOND	No	---	---	---	---	---
998: HEIMDAL-ESMOND LOAMS, 6 TO 9 PERCENT SLOPES	HEIMDAL	No	---	---	---	---	---
	ESMOND	No	---	---	---	---	---
1013: KELVIN LOAM, 3 TO 9 PERCENT SLOPES	KELVIN	No	---	---	---	---	---
1014: KELVIN LOAM, 9 TO 25 PERCENT SLOPES	KELVIN	No	---	---	---	---	---
1104: LANONA-SWENODA FINE SANDY LOAMS, 1 TO 6 PERCENT SLOPES	LANONA	No	---	---	---	---	---
	SWENODA	No	---	---	---	---	---
1140: LETCHER FINE SANDY LOAM, 0 TO 6 PERCENT SLOPES	LETCHER	No	---	---	---	---	---
1182: LOHNES LOAMY SAND, 0 TO 6 PERCENT SLOPES	LOHNES	No	---	---	---	---	---
1206: MADDOCK LOAMY FINE SAND, 6 TO 25 PERCENT SLOPES	MADDOCK	No	---	---	---	---	---
1221: MADDOCK-HECLA LOAMY FINE SANDS, 1 TO 6 PERCENT SLOPES	MADDOCK	No	---	---	---	---	---
	HECLA	No	---	---	---	---	---
1269: MARYSLAND SILT LOAM	MARYSLAND	Yes	flat	2B3	YES	NO	NO
1291: METIGOSHE SANDY LOAM, 3 TO 9 PERCENT SLOPES	METIGOSHE	No	---	---	---	---	---
1292: METIGOSHE SANDY LOAM, 9 TO 25 PERCENT SLOPES	METIGOSHE	No	---	---	---	---	---
1300: MIRANDA-CAVOUR LOAMS	MIRANDA	No	---	---	---	---	---
	CAVOUR	No	---	---	---	---	---
1426: PARNELL SILT LOAM	PARNELL	Yes	depression	2B3,3	YES	NO	YES

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1466: PITS, SAND AND GRAVEL	PITS, SAND AND GRAVEL	No	---	---	---	---	---
1523: RENSHAW LOAM, 0 TO 3 PERCENT SLOPES	RENSHAW	No	---	---	---	---	---
1571: ROLLA SILTY CLAY, 0 TO 6 PERCENT SLOPES	ROLLA	No	---	---	---	---	---
1572: ROLLA SILTY CLAY, 6 TO 15 PERCENT SLOPES	ROLLA	No	---	---	---	---	---
1687: SIOUX LOAM, 0 TO 6 PERCENT SLOPES	SIOUX	No	---	---	---	---	---
1691: SIOUX LOAM, 6 TO 25 PERCENT SLOPES	SIOUX	No	---	---	---	---	---
1709: SOUTHAM SILT LOAM	SOUTHAM	Yes	depression	2B3,3	YES	NO	YES
1727: STIRUM FINE SANDY LOAM	STIRUM	Yes	flat	2B3	YES	NO	NO
1780: SWENODA FINE SANDY LOAM	SWENODA	No	---	---	---	---	---
1843: TOWNER LOAMY FINE SAND, 0 TO 6 PERCENT SLOPES	TOWNER	No	---	---	---	---	---
1859: ULEN FINE SANDY LOAM	ULEN	No	---	---	---	---	---
1871: VALLERS LOAM, SALINE	VALLERS	Yes	flat	2B3	YES	NO	NO
1978: WATER	WATER	Yes	depression	2B3,3	YES	NO	YES
2046: WYNDMERE FINE SANDY LOAM	WYNDMERE	No	---	---	---	---	---
2059: WYRENE SANDY LOAM	WYRENE	No	---	---	---	---	---

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FOOTNOTE: There may be small areas of included soils or miscellaneous areas that are significant to use and management of the soil; yet are too small to delineate on the soil map at the map's original scale. These may be designated as spot symbols and are defined in the published Soil Survey Report or the USDA-NRCS Technical Guide, Part II. Areas mapped as water or any map unit that contains one of the following conventional symbols is considered a hydric soil map unit: marshes or swamps; wet spots; depressions; streams, lakes and ponds.

1. All Histosols except Folists, or
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Aquisalids, Pachic subgroups, or Cumulic subgroups that are:
 - a. Somewhat poorly drained with a water table equal to 0.0 foot (ft) from the surface during the growing season, or
 - b. poorly drained or very poorly drained and have either:
 - (1) water table equal to 0.0 ft during the growing season if textures are coarse sand, sand, or fine sand in all layers within 20 inches (in),
or for other soils
 - (2) water table at less than or equal to 0.5 ft from the surface during the growing season if permeability is equal to or greater than 6.0 in/hour (h) in all layers within 20 in, or
 - (3) water table at less than or equal to 1.0 ft from the surface during the growing season if permeability is less than 6.0 in/h in any layer within 20 in, or
3. Soils that are frequently ponded for long duration or very long duration during the growing season, or
4. Soils that are frequently flooded for long duration or very long duration during the growing season.

